

WHAT IS CLAIMED IS:

1. A composition for the treatment, prevention or management of a condition in primates, especially humans comprising a phenolic antioxidant-chromium complex.
2. The composition of claim 1 wherein the condition is Type 2 diabetes or non-insulin dependent diabetes mellitus.
3. The composition of claim 1 wherein the condition is glucose intolerance.
4. The composition of claim 1 comprising a phenolic antioxidant having no pro-oxidation activity.
5. The composition of claim 1 wherein the phenolic antioxidant is of plant origin.
6. The composition of claim 1 wherein the chromium content in the complex is 0.01 to 20% of the complex.
7. The composition of claim 6 wherein the chromium content in the complex is from 0.02 to 10%.
8. The composition of claim 1 wherein the chromium is trivalent in nature.
9. The composition of claim 1 wherein the phenolic antioxidants include low molecular weight hydrolyzable tannins having a molecular weight below 2,000.

10. The composition of claim 9 wherein the phenolic antioxidant is obtained from the genus Phyllanthus, Terminalia, Gardenia, Geranium, Erodium or Tamarix.

11. The composition of claim 9 wherein the hydrolyzable tannins are obtained from Phyllanthus emblica (syn. Emblica officinalis), Phyllanthus amarus, Phyllanthus flexuosus, other Phyllanthus species, Terminalia bellerica and other Terminalia species, Erodium pelagonium, Geranium thumbergi, Tamarix aphylla or another Tamarix species.

12. The composition of claim 11 wherein the condition in primates, especially humans is Type 2 diabetes or glucose intolerance.

13. The composition of claim 11 wherein the hydrolyzable tannins are obtained from the Phyllanthus emblica fruit.

14. A composition of claim 1 comprising chromium complex(s) of oxygenated dibenzo- α -pyrone (DBP) or its conjugates, including dimers and oligomers and fulvic acids for the treatment, prevention or management of Type 2 diabetes or glucose tolerance in primates, especially humans.

15. The composition of claim 14 wherein the oxygenated dibenzo- α -pyrone (DBP) or its conjugates, including dimers and oligomers and fulvic acids are obtained from purified Shilajit.

16. A composition of claim 1 comprising chromium complex(s) of the antioxidant fractions of Phyllanthus emblica and/or purified Shilajit, for the treatment, prevention or management of Type 2 diabetes or glucose intolerance.

17. The composition of claim 1 wherein the phenolic antioxidant-chromium complex is prepared by reacting a trivalent chromium salt with a phenolic antioxidant(s).

18. The composition of claim 17 wherein the phenolic antioxidant-chromium complex is prepared by reacting chromium chloride, acetate or formate with a phenolic antioxidant(s) in an aqueous system.

19. The composition of claim 18 wherein the phenolic antioxidant-chromium complex is prepared by reacting chromium chloride, acetate or formate with low molecular weight tannins having a molecular weight below 2,000.

20. The composition of claim 17 wherein the phenolic antioxidant-chromium complex is prepared by reacting chromium chloride, acetate or formate with oxygenated dibenzo- α -pyrone (DBP) or its conjugates, including dimers and oligomers and fulvic acids of purified Shilajit in an aqueous system.

21. The composition of claim 17 wherein the phenolic antioxidant-chromium complex is obtained by spray, freeze, tray or vacuum drying.

22. A formulation of the composition of claim 1 wherein the phenolic antioxidant-chromium complex is combined with a pharmaceutically or nutritionally acceptable excipient.

23. A formulation of claim 22 wherein the phenolic antioxidant-chromium complex is combined with a pharmaceutically or nutritionally acceptable excipient for the treatment of Type 2 diabetes or glucose intolerance in primates, especially humans.

24. The composition of claim 1 which also includes an added active ingredient.

25. The composition of claim 24 wherein said added active ingredient is an antioxidant, vitamin, carnitine, carnosine, N-acetyl-L-cysteine, biotin, polycosanol, aminoguanidine, a fatty acid or plant extract, or mixtures thereof.

26. The composition of claim 7 wherein the chromium content in the complex is 1 to 8% of the complex.

27. The composition of claim 19 wherein the molecular weight of said tannins is below 1,000.

28. A method of treating, preventing or managing a condition in primates, especially humans which comprises treating said primate, especially human with the composition of claim 1.

29. A method of claim 28 wherein said condition is Type 2 diabetes or glucose intolerance.

30. A formulation of claim 22 wherein the phenolic antioxidant-chromium complex having 10 to 1,000 μg of chromium content is combined with a pharmaceutically or nutritionally acceptable excipient to improve insulin sensitivity, reduce blood glucose, glycated hemoglobin, reduce total cholesterol and low density lipids in primates, especially humans.

31. The composition of claim 1 wherein the phenolic antioxidant-chromium complex is prepared by dry blending a trivalent chromium salt or a complex with a phenolic antioxidant(s).

32. The composition of claim 31 wherein the phenolic antioxidant-chromium complex is prepared by dry blending chromium chloride, acetate or formate, picolinate, nicotinate or polynicotinate with a phenolic antioxidant(s).

33. The composition of claim 31 wherein the phenolic antioxidant-chromium complex is prepared by dry blending chromium chloride, acetate, formate, nicotinate, polynicotinate or picolinate with oxygenated dibenzo- α -pyrone (DBP) or its conjugates, including dimmers and oligomers and fulvic acids of purified Shilajit.

34. A formulation of claim 31 wherein the phenolic antioxidant-chromium blend having 10 to 1,000 μg of chromium is combined with a pharmaceutically or nutritionally acceptable excipient to improve Type 2 diabetes, glucose intolerance, insulin sensitivity, reduce blood glucose, glycated hemoglobin, reduce total cholesterol and low density lipid in primates, especially humans.

35. A pharmaceutical or nutritional preparation of claim 34 is administered once or twice a day to a primate, especially human.